Heatwaves proof positive Australia needs nuclear

As the east coast of Australia sweltered last week, the need for reliable electricity supplies which don't bust family and business budgets was again clear when we switched on airconditioners at home, work or in shopping centres.

Between Monday and Friday last week, at least 80 per cent of all electricity consumed by businesses and families in NSW, Queensland and Victoria came from baseload coal-fired generators. Baseload power generation underpins the supply of cheap, reliable and secure power in NSW and across Australia.

These are the power stations that are still there when the wind's not blowing and the sun's not shining. Up to now we have largely taken these for granted — or at least we did until the close of Hazelwood in 2017 when wholesale prices increased 80 per cent — and concerns about the ability of the power system to meet demand became real.

With the 1800MW Liddell Power Station in NSW (larger than the 1600MW supplied by Victoria's Hazelwood plant) slated to close in 2022 we are now seeing history repeat. Prices are expected to rise and it's not clear where the replacement power will come from or that it will be there when we need it.

The situation is worse than that. The influx of part-time power sources such as wind and solar which make it more difficult for older baseload power stations to operate will likely see the early closure of a number of them well before 2030.

These include Vales Point in NSW, Yallourn Power Station in Victoria, Gladstone C in Queensland and Torrens A in South Australia. Between them and Liddell Power Station, they represent about 30 per cent of our baseload capacity.

Given the very real challenges we have in trying to reduce energy prices while making sure there's enough power, the focus should be on making sure our critical low-cost baseload power stations can be upgraded.

Doing so would mean we can use existing infrastructure such as transmission lines which have contributed so much to previous price rises.

Yet this has not been the approach by the Australian Energy Market Operator (AEMO).

Just before Christmas AEMO, along with the CSIRO, released the Gen Cost 2018 study looking at the cost of alternative generation technologies. Not surprisingly, this report confirmed the fast-evolving nature of energy technologies — particularly the falling cost of renewables.

This gets a tick — a reduction in emissions is a good thing for Australia.

What the report didn't do was consider upgrades at existing baseload plants such as upgrading boilers and turbines. This means that AEMO and CSIRO missed a golden opportunity to consider an important way of lowering power prices, ensuring reliability and lowering emissions through advanced coal technology.

Daily Telegraph readers sweltering through summer and small business owners in Western Sydney should know that this issue goes beyond an obscure technology report.

The GenCost 2018 study underpins AEMO's future Integrated System Plan which was released last year and was a key recommendation of the Finkel Review. This plan failed to consider whether upgrades of our existing baseload plants might provide the cheapest way to lower prices, ensure reliability and lower emissions.

Surely it's time we looked at the potential for upgrades at existing baseload power stations as part of future energy policy certainty to lower prices and improve reliability while reducing emissions.

In the same way, we need to have an honest conversation about the role of nuclear power — which the Finkel Review described as something governments should look at, but which for some reason was 'beyond the scope' of the review.

If we are truly serious about reducing emissions in a world where energy demand is only increasing, nuclear power must be on the table

Nuclear power was prohibited in Australia in 1998 in a political trade-off for the passage of legislation centralising radiation regulation.

Public debate at the time, fanned by the antinuclear movement, centred on the replacement of the Lucas Heights reactor. The political fix was to draw a line through the industry. After all, the need for nuclear was low — energy was affordable, abundant and with a country full of coal, there was no reason to believe that would change.

The good news is the nuclear ban can be reversed with a single amendment to the Environment Protection and Biodiversity Conservation Act 1999 — which happens to be due for review this year.

The removal of four words — 'a nuclear power plant' — in Section 140A(1) (b) would allow nuclear industries to be considered for development in Australia. Any nuclear projects would still have to meet Australia's stringent environmental and safety requirements. Nuclear energy has changed significantly. There is now a family of new technologies — small modular reactors — leading the way in cost. These are readily deployable and produce zero emissions. With these qualities, nuclear energy shouldn't be excluded from Australia's energy mix.

It has met energy challenges around the world, powers more than 30 economies and been deployed at substantial scale within a decade in countries such as the UAE. Nuclear power is also behind the new generation of innovative nuclear start-ups, such as Bill Gates's TerraPower and Transatomic out of MIT.

Australia, with its educated workforce, established uranium mines, nuclear research and university sectors and strong non-proliferation credentials, would be a partner of choice for private venture capital-funded new nuclear energy.

Along with upgrades to existing coal-fired generators, our regulators and politicians should open their eyes to this commonsense approach to dealing with what is now a major problem for Australia — how to lower power prices and making sure the lights stay on while also reducing emissions.